Claims

1. Use of G-CSF or fragment thereof for the preparation of a pharmaceutical composition for the treatment of organ dysfunction caused by ischemia, whereby the pharmaceutical composition is to be administered to a patient who is subjected to a surgical or interventional procedure in order to improve organ function, to improve blood flow and/or to induce revascularization.

2. A method of treating organ dysfunction caused by ischemia comprising administering an effective amount of G-CSF or fragment thereof to a patient who is subjected to a surgical or interventional procedure in order to improve organ function, to improve blood flow and/or to induce revascularization.

3. The use of claim 1 or the method of claim 2, wherein said pharmaceutical composition or said effective amount of G-CSF or fragment thereof is to be administered before said surgical or interventional procedure.

4. The use of claim 1 or the method of claim 2, wherein said pharmaceutical composition or said effective amount of G-CSF or fragment thereof is to be administered during said surgical or interventional procedure.

5. The use of claim 1 or the method of claim 2, wherein said pharmaceutical composition or said effective amount of G-CSF or fragment thereof is to be administered after said surgical or interventional procedure.

6. The use or the method of claim 5, wherein said pharmaceutical composition or said effective amount of G-CSF or fragment thereof is to be administered between 2 hours and 5 days after said surgical or interventional procedure.

7. The use or the method of any one of claims 1 to 6, wherein said ischemia is selected from the group consisting of myocardial ischemia, cerebral ischemia, renal ischemia, liver ischemia, peripheral muscle tissue ischemia, retinal ischemia and spinal cord ischemia.

8. The use or the method of claim 7, wherein said myocardial ischemia is caused by hypertension, coronary artery disease (CAD), myocardial infarction, thrombo-embolic events, trauma and/or surgical procedures.

9. The use or the method of claim 7, wherein said cerebral ischemia is caused by trauma, stroke, thrombo-embolic events, malformation of blood-supplying vessels, multi-infarct disease, cerebral hemorhage, surgical and/or interventional measures.

10. The use or the method of claim 7, wherein said renal ischemia is caused by thrombo-embolic events, atherosclerosis, malformation of blood-supplying vessels, trauma and/or surgical procedures

11. The use or the method of claim 7, wherein said liver ischemia is caused by thrombo-embolic events, malformation of blood-supplying vessels, trauma and/or surgical procedures.

12. The use or the method of claim 7, wherein said peripheral muscle tissue ischemia is caused by thrombo-embolic events, atherosclerosis, malformation of blood-supplying vessels, trauma and/or surgical procedures.

13. The use or the method of claim 7, wherein said retinal ischemia is caused by thrombo-embolic events, malformation of blood-supplying vessels, trauma and/or surgical procedures.

14. The use or the method of claim 7, wherein said spinal cord ischemia is caused by thrombo-embolic events, atherosclerosis, malformation of blood-supplying vessels, trauma and/or surgical procedures.

15. The use or the method of any one claims 1 or 7 to 14, wherein said ischemia causes organ defects.

16. The use or the method of any one of claims 1 to 6, wherein said surgical or interventional procedure is a procedure to regain blood flow selected from the

group consisting of thrombolysis, ballon angioplasty, stenting, coronary or peripheral bypass surgery and ventriculo-coronary stenting.

17. The use or the method of any one of claims 1 to 16, wherein said pharmaceutical composition or said effective amount of G-CSF or fragment thereof is capable of recruiting stem and/or progenitor cells.

18. The use or the method of claim 17, wherein said stem cells are selected from the group consisting of CD34(+), multipotent adult progenitor cells (MAPC), endothelial progenitor cells (EPC), side population cells (SP) and lineage-negative stem cells.

19. The use or the method of claim 18, wherein said multipotent adult progenitor cells are CD34(-), vascular endothelial cadherin(-) and AC133(+) and Flk1(+).

20. The use or the method of claim 18, wherein said endothelial progenitor cells are CD34(+), CD31(+) and KDR(+).

21. The use or the method of claim 18, wherein said cells of the side population are CD34(-)/ low, c-Kit(+) and Sca-1(+).

22. The use or the method of claim 18, wherein said lineage-negative stem cells are CD5(-), CD19(-),CD34(-), c-Kit(+) and Sca-1(+).

23. The use or the method of any one of claim 17 to 22, wherein said cells home to organs which harbour defects due to ischemia.

24. The use or the method of claim 23, wherein said cells are capable of repairing and/or regenerating said organs.